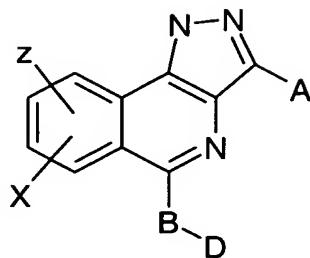


What is claimed is:

1. A compound of the formula I



5

(I)

or a stereoisomeric form or a pharmaceutically acceptable salt of the compound of the formula I, wherein

10 A is -(C₁-C₆)-alkyl, in which alkyl is straight-chain or branched and is unsubstituted or optionally substituted, once or twice, independently of each other, by
 -O-R¹ or
 -C(O)-OR¹, in which R¹ is

15 hydrogen atom or
 -(C₁-C₆)-alkyl,
 -O-R₁,
 -C(O)-OR₁, or

20 heteroaryl having from 5 to 14 ring members, in which heteroaryl is unsubstituted or substituted once, twice or three times, independently of each other, by R²,

B is a covalent bond, or
 -(C₁-C₄)-alkylene, in which alkylene is straight-chain or branched and is unsubstituted or optionally substituted, once or twice, independently of each other, by R¹, and R¹ is defined as above,

30 D is heteroaryl having from 5 to 14 ring members, in which heteroaryl is unsubstituted or is substituted once, twice or three times, independently of each other, by R², in which R² is

hydrogen atom,
-(C₁-C₄)-alkyl,
-OH,
-O-(C₁-C₄)-alkyl,

5 halogen, or
-N(R³)R⁴, in which R³ and R⁴ are, independently of each other, hydrogen atom or -(C₁-C₄)-alkyl,

10 heterocycle having from 5 to 12 ring members, in which heterocycle is unsubstituted or substituted, once, twice or three times, independently of each other, by R², and R² is defined as above,

15 -(C₆-C₁₄)-aryl, in which aryl is unsubstituted or substituted, once, twice or three times, independently of each other, by R², and R² is defined as above, or

20 -(C₃-C₆)-cycloalkyl, in which cycloalkyl is unsubstituted or substituted, once, twice or three times, independently of each other, by R², and R² is defined as above, and

X and Z are identical or different and are, independently of each other,

hydrogen atom,
-(C₁-C₄)-alkyl,
-OH,
-O-(C₁-C₄-alkyl), or
halogen.

30 2. A compound of the formula I as claimed in claim 1, wherein

A is -(C₁-C₃)-alkyl, in which alkyl is straight-chain or branched and is unsubstituted or optionally substituted, once or twice, independently of each other, by

35 -O-R¹, or
-C(O)-OR¹, in which R¹ is

hydrogen atom, or
 -(C₁-C₃)-alkyl, or
 -C(O)-OR¹,

5 B is a covalent bond,

D is phenyl, in which phenyl is unsubstituted or substituted, once, twice or three times, independently of each other, by R², in which R² is

10 hydrogen atom,
 -(C₁-C₄)-alkyl or
 -N(R³)-R⁴, in which R³ and R⁴ are, independently of each other, hydrogen atom or -(C₁-C₃)-alkyl,

15 pyridyl, in which pyridyl is unsubstituted or substituted, once, twice or three times, independently of each other, by R², and R² is defined as above, or

20 -(C₄-C₆)-cycloalkyl, in which cycloalkyl is unsubstituted or substituted, once, twice or three times, independently of each other, by R², and R² is defined as above, and

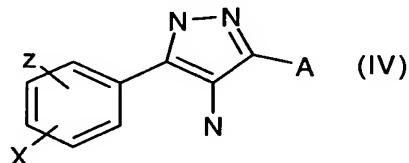
X and Z are identical or different and are, independently of each other, hydrogen atom or halogen.

25

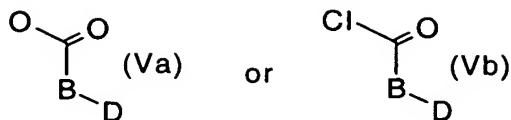
- 3. A compound of the formula 1 as claimed in claim 1, wherein the compound of the formula I is selected from the group consisting of:
 3,5-diphenyl-1H-pyrazolo[4,3-c]isoquinoline,
 5-(3-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 30 3-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)phenol,
 5-(2-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 5-(2,3-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 5-(2,4-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 5-(2,6-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 35 5-(3,4-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 5-(3,5-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 5-(2,3,4-trimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

5-(2,4,6-trimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 5-(3,4,5-trimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 5-(2-ethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 5-(4-diethylaminophenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 5
 3-methyl-5-pyridin-4-yl-1H-pyrazolo[4,3-c]isoquinoline,
 3-methyl-5-pyridin-3-yl-1H-pyrazolo[4,3-c]isoquinoline,
 3-methyl-5-pyridin-2-yl-1H-pyrazolo[4,3-c]isoquinoline,
 5-benzyl-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 3-methyl-5-phenethyl-1H-pyrazolo[4,3-c]isoquinoline,
 10
 3-methyl-5-(1-methylpiperidin-4-yl)-1H-pyrazolo[4,3-c]isoquinoline,
 7,8-dimethoxy-3-methyl-5-phenyl-1H-pyrazolo[4,3-c]isoquinoline,
 7-methoxy-3-methyl-5-phenyl-1H-pyrazolo[4,3-c]isoquinoline,
 7,8-dimethoxy-5-(3-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 15
 7,8-dimethoxy-3-methyl-5-pyridin-2-yl-1H-pyrazolo[4,3-c]isoquinoline,
 7,8-dimethoxy-3-methyl-5-pyridin-3-yl-1H-pyrazolo[4,3-c]isoquinoline,
 7-methoxy-5-(3-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 20
 5-phenyl-1H-pyrazolo[4,3-c]isoquinoline-3-carboxylic acid,
 Methyl 5-phenyl-1H-pyrazolo[4,3-c]isoquinoline-3-carboxylate,
 (5-phenyl-1H-pyrazolo[4,3-c]isoquinolin-3-yl)methanol,
 2-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)phenol,
 25
 4-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)benzene-2,4-diol, and
 4-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)benzene-1,2-diol.

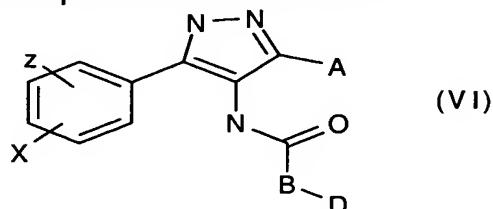
4. A process for preparing a compound of the formula I as claimed in claim 1, which comprises
 30
 a) reacting a compound of the formula IV



with a compound of the formulae Va or Vb



to give a compound of the formula VI



5 and reacting a compound of the formula VI in the presence of phosphorus pentoxide and phosphorus oxychloride to give a protected compound of the formula I and, removing the protecting group,

10 b) resolving the compound of the formula I prepared in accordance with step a) and which, on account of its chemical structure, appears in enantiomeric forms, into the pure enantiomers by means of salt formation with enantiomerically pure acids or bases, chromatography on chiral stationary phases or derivatization using chiral enantiomerically pure compounds, such as amino acids, separating the resulting diastereomers and eliminating the chiral auxiliary groups, and

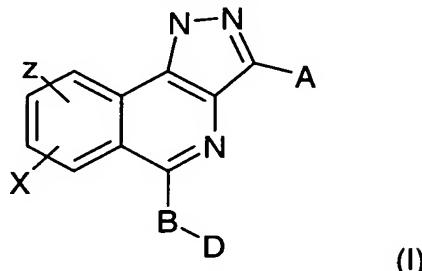
15 c) either isolating the compound of the formula I prepared in accordance with steps a) or b), in free form or, when acidic or basic groups are present, converting it into pharmaceutically acceptable salts.

20 5. A pharmaceutical composition comprising a therapeutically effective content of at least one compound of the formula I as claimed in claim 1 together with a pharmaceutically suitable carrier optionally in combination with a suitable additive, other active compounds and auxiliary substances.

25 6. A method of treating a disease condition associated with the increased activity of NIK comprising administering to a patient

30

suffering from said disease condition a therapeutically effective amount of a compound of the formula I



5 or a stereoisomeric form or a pharmaceutically acceptable salt of said compound of the formula I, optionally in combination with a pharmaceutically acceptable carrier,

wherein

10 A is -(C₁-C₆)-alkyl, in which alkyl is straight-chain or branched and is optionally substituted, once or twice, independently of each other, by

-O-R¹ or

-C(O)-OR¹, in which R¹ is hydrogen atom or

-(C₁-C₆)-alkyl,

15 -O-R₁,

-C(O)-OR₁,

heteroaryl having from 5 to 14 ring members, in which heteroaryl is unsubstituted or is substituted once, twice or three times, independently of each other, by R², or

20 -(C₆-C₁₄)-aryl, in which aryl is unsubstituted or substituted, once, twice or three times, independently of each other, by R²,

B is a covalent bond, or

25 -(C₁-C₄)-alkylene, in which alkylene is straight-chain or branched and is substituted, once or twice, independently of each other, by R¹, and R¹ is defined as above,

D is heteroaryl having from 5 to 14 ring members, in which heteroaryl is unsubstituted or is substituted once, twice or three times, independently of each other, by R²,

in which R^2 is
hydrogen atom,
 $-(C_1-C_4)$ -alkyl,
 $-OH$,
5 $-O-(C_1-C_4)$ -alkyl,
halogen, or
 $-N(R^3)-R^4$, in which R^3 and R^4 are, independently of each other, hydrogen atom or $-(C_1-C_4)$ -alkyl,
10 heterocycle having from 5 to 12 ring members, in which heterocycle is unsubstituted or substituted, once, twice or three times, independently of each other, by R^2 , and R^2 is defined as above,
15 $-(C_6-C_{14})$ -aryl, in which aryl is unsubstituted or substituted, once, twice or three times, independently of each other, by R^2 , and R^2 is defined as above, or
 $-(C_3-C_6)$ -cycloalkyl, in which cycloalkyl is unsubstituted or substituted, once, twice or three times, independently of each other, by R^2 , and R^2 is defined as above, and
20 X and Z are identical or different and are, independently of each other,
 hydrogen atom,
 $-(C_1-C_4)$ -alkyl,
 $-OH$,
 $-O-(C_1-C_4)$ -alkyl, or
25 halogen.

7. The method as claimed in claim 6, wherein
A is $-(C_1-C_3)$ -alkyl, in which alkyl is straight-chain or branched and
30 is unsubstituted or optionally substituted, once or twice, independently of each other, by
 $-O-R^1$, or
 $-C(O)-OR^1$, in which R^1 is
 hydrogen atom, or
 $-(C_1-C_3)$ -alkyl,
35 phenyl, or

-C(O)-OR¹,

B is a covalent bond,

D is phenyl, in which phenyl is unsubstituted or substituted, once, twice or three times, independently of each other, by R²,

5 in which R² is

hydrogen atom,

-(C₁-C₄)-alkyl or,

-N(R³)-R⁴, in which R³ and R⁴ are, independently of each other, hydrogen atom or -(C₁-C₃)-alkyl,

10 pyridyl, in which pyridyl is unsubstituted or substituted, once, twice or three times, independently of each other, by R², and R² is defined as above, or

-(C₄-C₆)-cycloalkyl, in which cycloalkyl is unsubstituted or substituted, once, twice or three times, independently of each

15 other, by R², and R² is defined as above, and

X and Z are identical or different and are, independently of each other, hydrogen atom or halogen.

8. The method as claimed in claim 6 wherein said compound is selected from the group consisting of:

20 3,5-diphenyl-1H-pyrazolo[4,3-c]isoquinoline,

5-(3-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

3-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)phenol,

25 5-(2-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

5-(2,3-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

5-(2,4-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

30 5-(2,6-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

5-(3,4-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

5-(3,5-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

35 5-(2,3,4-trimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

5-(2,4,6-trimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

5-(3,4,5-trimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

5-(2-ethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

5-(4-diethylaminophenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,

35 3-methyl-5-pyridin-4-yl-1H-pyrazolo[4,3-c]isoquinoline,

3-methyl-5-pyridin-3-yl-1H-pyrazolo[4,3-c]isoquinoline,

3-methyl-5-pyridin-2-yl-1H-pyrazolo[4,3-c]isoquinoline,

5-benzyl-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 3-methyl-5-phenethyl-1H-pyrazolo[4,3-c]isoquinoline,
 3-methyl-5-(1-methylpiperidin-4-yl)-1H-pyrazolo[4,3-c]isoquinoline,
 7,8-dimethoxy-3-methyl-5-phenyl-1H-pyrazolo[4,3-c]isoquinoline,
 5 7-methoxy-3-methyl-5-phenyl-1H-pyrazolo[4,3-c]isoquinoline,
 7,8-dimethoxy-5-(3-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 10 7,8-dimethoxy-3-methyl-5-pyridin-2-yl-1H-pyrazolo[4,3-c]isoquinoline,
 7-methoxy-5-(3-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
 15 5-phenyl-1H-pyrazolo[4,3-c]isoquinoline-3-carboxylic acid,
 Methyl 5-phenyl-1H-pyrazolo[4,3-c]isoquinoline-3-carboxylate,
 (5-phenyl-1H-pyrazolo[4,3-c]isoquinolin-3-yl)methanol,
 2-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)phenol,
 4-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)benzene-2,4-diol, and
 4-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)benzene-1,2-diol.
 20

9. The method as claimed in claim 6, wherein the diseases are osteoarthritis, rheumatoid arthritis, asthma, rejection reactions on the part of the body against a transplanted organ or rejection reactions on the part of the transplanted organ against the body.

25 10. A pharmaceutical composition comprising a compound of the formula (I)

(I)

30 or a stereoisomeric form or a pharmaceutically acceptable salt of the compound of the formula I, wherein

A is $-(C_1-C_6)\text{-alkyl}$, in which alkyl is straight-chain or branched and is unsubstituted or optionally substituted, once or twice, independently of each other, by
-O-R¹ or
-C(O)-OR¹, in which R¹ is
hydrogen atom or
 $-(C_1-C_6)\text{-alkyl}$,
-O-R1,
-C(O)-OR1, or

10 heteroaryl having from 5 to 14 ring members, in which heteroaryl is unsubstituted or substituted once, twice or three times, independently of each other, by R²,

B is a covalent bond, or

15 -(C₁-C₄)-alkylene, in which alkylene is straight-chain or branched and is unsubstituted or optionally substituted, once or twice, independently of each other, by R¹, and R¹ is defined as above,

D is heteroaryl having from 5 to 14 ring members, in which heteroaryl is unsubstituted or is substituted once, twice or three times, independently of each other, by R², in which R² is
hydrogen atom,
 $-(C_1-C_4)\text{-alkyl}$,
-OH,
-O-(C₁-C₄)-alkyl,
halogen, or
 $-N(R^3)-R^4$, in which R³ and R⁴ are, independently of each other, hydrogen atom or $-(C_1-C_4)\text{-alkyl}$,

30 heterocycle having from 5 to 12 ring members, in which heterocycle is unsubstituted or substituted, once, twice or three times, independently of each other, by R², and R² is defined as above,

35

-(C₆-C₁₄)-aryl, in which aryl is unsubstituted or substituted, once, twice or three times, independently of each other, by R², and R² is defined as above, or

5 -(C₃-C₆)-cycloalkyl, in which cycloalkyl is unsubstituted or substituted, once, twice or three times, independently of each other, by R², and R² is defined as above, and

10 X and Z are identical or different and are, independently of each other,

hydrogen atom,
-(C₁-C₄)-alkyl,
-OH,
-O-(C₁-C₄-alkyl), or
15 halogen.

11. The composition as claimed in claim 10, wherein

20 A is -(C₁-C₃)-alkyl, in which alkyl is straight-chain or branched and is unsubstituted or optionally substituted, once or twice, independently of each other, by
-O-R¹, or
-C(O)-OR¹, in which R¹ is
hydrogen atom, or
25 -(C₁-C₃)-alkyl, or
-C(O)-OR¹,

B is a covalent bond,

30 D is phenyl, in which phenyl is unsubstituted or substituted, once, twice or three times, independently of each other, by R², in which R² is
hydrogen atom,
-(C₁-C₄)-alkyl or
35 -N(R³)-R⁴, in which R³ and R⁴ are, independently of each other, hydrogen atom or -(C₁-C₃)-alkyl,

pyridyl, in which pyridyl is unsubstituted or substituted, once, twice or three times, independently of each other, by R², and R² is defined as above, or

5

-(C₄-C₆)-cycloalkyl, in which cycloalkyl is unsubstituted or substituted, once, twice or three times, independently of each other, by R², and R² is defined as above, and

10 X and Z are identical or different and are, independently of each other, hydrogen atom or halogen.

12. The composition as claimed in claim 1, wherein the compound of the formula I is selected from the group consisting of:

15 3,5-diphenyl-1H-pyrazolo[4,3-c]isoquinoline,
5-(3-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
3-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)phenol,
5-(2-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
5-(2,3-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
20 5-(2,4-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
5-(2,6-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
5-(3,4-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
5-(3,5-dimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
5-(2,3,4-trimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
25 5-(2,4,6-trimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
5-(3,4,5-trimethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
5-(2-ethoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
5-(4-diethylaminophenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
3-methyl-5-pyridin-4-yl-1H-pyrazolo[4,3-c]isoquinoline,
30 3-methyl-5-pyridin-3-yl-1H-pyrazolo[4,3-c]isoquinoline,
3-methyl-5-pyridin-2-yl-1H-pyrazolo[4,3-c]isoquinoline,
5-benzyl-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
3-methyl-5-phenethyl-1H-pyrazolo[4,3-c]isoquinoline,
3-methyl-5-(1-methylpiperidin-4-yl)-1H-pyrazolo[4,3-c]isoquinoline,
35 7,8-dimethoxy-3-methyl-5-phenyl-1H-pyrazolo[4,3-c]isoquinoline,
7-methoxy-3-methyl-5-phenyl-1H-pyrazolo[4,3-c]isoquinoline,

7,8-dimethoxy-5-(3-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
7,8-dimethoxy-3-methyl-5-pyridin-2-yl-1H-pyrazolo[4,3-c]isoquinoline,
5 7,8-dimethoxy-3-methyl-5-pyridin-3-yl-1H-pyrazolo[4,3-c]isoquinoline,
7-methoxy-5-(3-methoxyphenyl)-3-methyl-1H-pyrazolo[4,3-c]isoquinoline,
5-phenyl-1H-pyrazolo[4,3-c]isoquinoline-3-carboxylic acid,
10 Methyl 5-phenyl-1H-pyrazolo[4,3-c]isoquinoline-3-carboxylate,
(5-phenyl-1H-pyrazolo[4,3-c]isoquinolin-3-yl)methanol,
2-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)phenol,
4-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)benzene-2,4-diol, and
4-(3-methyl-1H-pyrazolo[4,3-c]isoquinolin-5-yl)benzene-1,2-diol.

15